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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,865	12/17/2001	W. Eli Strich	PA113B1C1	3128
23696 7590 02/07/2008 QUALCOMM INCORPORATED 5775 MOREHOUSE DR. SAN DIEGO, CA 92121			EXAMINER TORRES, JUAN A	
			ART UNIT 2611	PAPER NUMBER
			NOTIFICATION DATE 02/07/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

us-docketing@qualcomm.com
kascanla@qualcomm.com
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Office Action Summary	Application No. 10/021,865	Applicant(s) STRICH ET AL.	
	Examiner Juan A. Torres	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
 4a) Of the above claim(s) 11-22 and 29-41 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8 and 23-27 is/are allowed.
- 6) ☒ Claim(s) 1-7, 9 and 10 is/are rejected.
- 7) ☒ Claim(s) 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 June 2007 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 a) ☐ All b) ☐ Some * c) ☐ None of:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

The information disclosure statement filed 06/04/2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

As indicated in the previous Office action, the cited foreign patent document and each of the non-patent literature (NPL) publications have not been found in the parent case Application Serial No 08/495382 and for this reason the Examiner can not initiate these documents.

Specification

The modifications to the specification were received on 06/29/2007. These modifications are accepted by the Examiner.

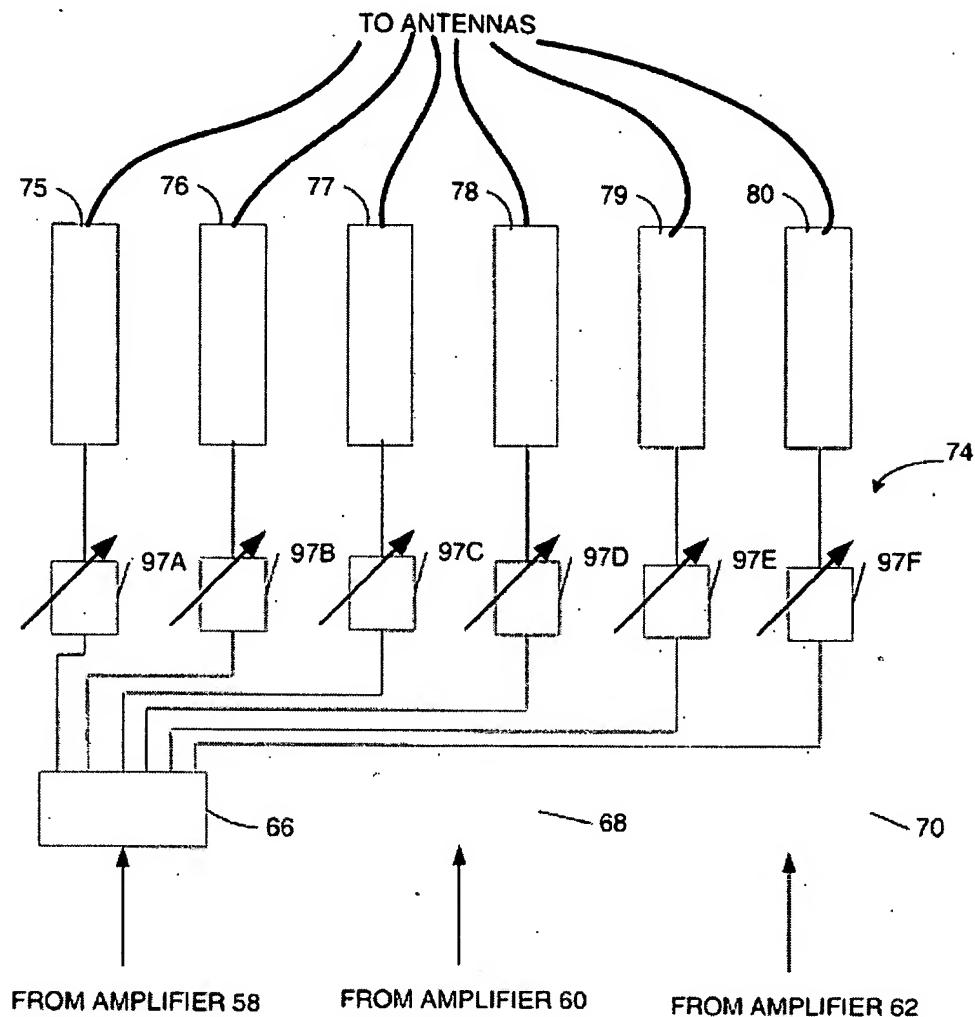
In view of the amendment filed on 06/29/2007, the Examiner withdraws Specification objections of the previous Office action.

Drawings

The drawings are objected to because:

- a) In figure 3 blocks 68 and 70 are missing (see figure 3 in US6473447).

Figure 3 in the present application is:



and, as indicated in the previous Office action, blocks 68 and 70 are missing from this figure.

b) The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "452-454" (see page 24 line 21); figure 9 shows reference numbers "252-254", but doesn't show reference numbers "452-454".

c) The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the

"generating an In-phase component and a Quadrature component of the first summation signal; and generating an In-phase component and a Quadrature component of the second summation signal" (see claim 5) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

The Examiner is objecting the drawings (no the specification), the drawings must show the features of the QAM signal.

Figure 6 doesn't show these features. Where in figure 6 is the In-phase component and a Quadrature component of the first summation signal; and an In-phase component and a Quadrature component of the second summation signal?

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner,

the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

The modifications to the claims were received on 06/29/2007. These modifications are accepted by the Examiner.

In view of the amendment filed on 06/29/2007, the Examiner withdraws claim objections to claim 4 of the previous Office action.

Claim 9 is objected to because of the following informalities:

Claim 9 recites "user vectors" in line 2, it seems that the intention of the Applicant is to indicate "user sectors" (the specification doesn't mention the word vector); it is suggested to be changed to "user sectors" (see claim 1 line 7).

Claim 28 objected to because of the following informalities:

Claim 28 recites "RAKE receiver comprises a plurality of modulators" in lines 1-2, it seems that the intention of the Applicant is to indicate "demodulators" (the specification doesn't mention the word modulator, and in a receiver, usually, only demodulator are used); it is suggested to changed "modulators" to "demodulators".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The modifications to the claims were received on 06/29/2007. These modifications are accepted by the Examiner.

Art Unit: 2611

In view of the amendment filed on 06/29/2007, the Examiner withdraws claim rejections under 35 USC 112 first paragraph to claims 4-6 of the previous Office action.

In view of the amendment filed on 06/29/2007, the Examiner withdraws claim rejections under 35 USC 112 second paragraph to claims 3-6 of the previous Office action.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-7, 9 and 10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 1, claim 1 recites the limitation "the delayed second PN-modulated signal" in line 9. There is insufficient antecedent basis for this limitation in the claim. This limitation has been deleted from the claim in line 8.

Regarding claims 2-6, 9 and 10, they are rejected because they depend directly or indirectly from claim 1 and claim 1 is rejected.

Regarding claim 7, claim 7 recites the limitation "the delayed second signal" in line 9. There is insufficient antecedent basis for this limitation in the claim. This limitation has been deleted from the claim in lines 7-8, plus now the new claim recites a second PN-modulated signal.

Regarding claim 1, claim 1 recites " In a wireless communication system having a plurality of antennas each directed to one of a plurality of coverage areas, a method comprising: receiving a first PN-modulated signal from a first

sector; receiving a second PN-modulated signal from a second sector adjacent to said first sector; introducing a delay between said pair of PN-modulated signals projected to adjacent coverage areas within a given user sector, whereby said PN-modulated signals are decorrelated; and summing the delayed second PN-modulated signal and the PN-modulated first signal" is indefinite because it is unclear if the first PN-modulated signal and the second PN-modulates signals are in different sectors (first sector and second sector) or in different covered areas inside of the same sector (a given user sector).

Regarding claims 2-6, 9 and 10, they are rejected because they depend directly or indirectly from claim 1 and claim 1 is rejected.

Regarding claim 7, claim 1 recites " A wireless infrastructure element, comprising: means for receiving a first PN-modulated signal from a first sector; means for receiving a second PN-modulated signal from a second sector; means for introducing a delay between said pair of PN-modulated signals projected to adjacent coverage areas within a given user sector, whereby said PN-modulated signals are decorrelated; and means for summing the delayed second signal and the first signal" is indefinite because it is unclear if the first PN-modulated signal and the second PN-modulates signals are in different sectors (first sector and second sector) or in different covered areas inside of the same sector (a given user sector).

Election/Restrictions

Newly submitted claims 11-22 and 29-41 are directed to an invention that is independent or distinct from the invention originally claimed for the following

Art Unit: 2611

reasons: The originally filed claims were directed to class 375 subclass 316 "receivers"; claims 11-22 are directed to class 375 subclass 259 a transceiver system; claims 29-41 are directed to class 375 subclass 295 a transmitter.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 11-22 and 29-41 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Allowable Subject Matter

Claims 8 and 23-27 are allowed.

Claims 1 and 7 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Claims 2-6, 9 and 10 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Yahagi (US 5428817 A) discloses a mobile communication system where a service area is divided into a plurality of coverage areas defined by a plurality of mobile base stations, at least one of the shape and size of the coverage areas is changed in accordance with a number of mobile stations being

Art Unit: 2611

served within each of the coverage areas, so that such a number of mobile stations is brought within a predetermined range.

b) Smith (US 5432780 A) discloses a High capacity sectorized cellular communication system.

c) Bruckert (US 5596333 A) discloses conveying a communication signal between a communication unit and a base site.

d) Antonio (US 5621752 A) discloses adaptive sectorization in a spread spectrum communication system.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Juan A. Torres whose telephone number is 571-272-3119. The examiner can normally be reached on 8-6 M-F.

Art Unit: 2611

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Juan Alberto Torres
01-04-2008


MOHAMMED GHAYOUR
SUPERVISORY PATENT EXAMINER